

## EXAMPLE 7-14

The polymer of Example 5 can be represented with a general structural formula using the well known M, D, T, Q shorthand systems for silicone structures where 5  $M=R_3SiO$ ;  $D=R_2SiO$ ;  $T=RSiO_{3/2}$  and  $Q=SiO_{4/2}$ . The average structure of the polymer of Example 5 is:

where  $M=Me_3SiO_{4/2}$ ;  $D=D_1+D_2$  where  $D_1=Me_2SiO$  and  $D_2=MeViSiO$ ;  $T=MeSiO_{3/2}$ ;  $m=O$ ;  $x=80$  and  $n=10$ . The relative number of moles is therefore  $T=11$  moles  
 $M=13$  moles  
 $D=80+160(10)+2.80=1840$   
 Total Si=1864

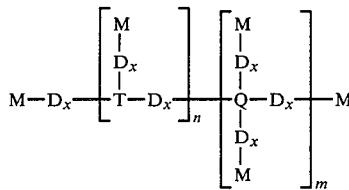
The variation in R groups listed in Table I which follows has been demonstrated to give useful polymers 10 with dangling ends when cured into gel. The general process of Example 5 was used except as noted.

TABLE I

EXAMPLE	COMPONENT	MOLE RATIO	MONOMER USED	GRAMS	GPC $M_n$	GPC $M_z$	DISPERSITY
5							
n = 11	D <sub>1</sub>	1832.5/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	477.8	18006	1,239,720	10.54
m = 0	D <sub>2</sub>	7.5/1864	(MeViSiO) <sub>4</sub>	2.25			
x = 80	M	13/1864	5 cs Silicone Fluid	16.9			
Si = 1864	T	11/1864	MeSi(OAc) <sub>3</sub>	8.5			
7							
n = 11	D <sub>1</sub>	1840/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	483.5	19266	1,397,380	11.05
m = 0	M <sub>1</sub>	9.3/1864	5 cs silicone fluid	12.18			
x = 80	M <sub>2</sub>	3.7/1864	(ViMe <sub>2</sub> Si) <sub>2</sub> O	1.23			
Si = 1864	T	11/1864	MeSi(OAc) <sub>3</sub>	8.61			
8							
n = 11	D <sub>1</sub>	1840/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	487.10	16463	1,518,420	15.08
m = 0	M <sub>1</sub>	5.5/1864	5 cs silicone fluid	7.33			
x = 80	M <sub>2</sub>	7.46/1864	(ViMe <sub>2</sub> Si) <sub>2</sub> O	2.49			
Si = 1864	T	3.9/1864	MeSi(OAc) <sub>3</sub>	3.07			
9 <sup>1</sup>							
n = 11	D <sub>1</sub>	115/1864	Me <sub>2</sub> SiCl <sub>2</sub>	53.72	7609	102,096	3.92
m = 0	D <sub>2</sub>	1725/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	414.9			
x = 80	M	131/1864	Me <sub>3</sub> SiCl	5.12			
Si = 1864	T	11/1864	ViSiCl <sub>3</sub>	6.33			
			Acid Clay	3 g			
10 <sup>2</sup>	D <sub>1</sub>	430/8690	Me <sub>2</sub> SiCl <sub>2</sub>	43.122			
n = 45	D <sub>2</sub>	8170/8690	(Me <sub>2</sub> SiO) <sub>4</sub>	469.99			
m = 0	M	46/8690	Me <sub>3</sub> SiCl	3.887			
x = 945	T <sub>1</sub>	8/8690	ViSiCl <sub>3</sub>	1.004			
Si = 8690	T <sub>2</sub>	36/8690	MeSiCl <sub>3</sub>	4.184			
			Acid Clay	10.0 g			
11 <sup>2</sup>	D <sub>1</sub>	2000/20,000	Me <sub>2</sub> SiCl <sub>2</sub>	87.010	14,808	2,225,400	—
n = 201	D <sub>2</sub>	17598/20,000	(Me <sub>2</sub> SiO) <sub>4</sub>	439.80			
m = 0	M	202/20,000	Me <sub>3</sub> SiCl	7.397			
x = 48.6	T <sub>1</sub>	40/20,000	ViSiCl <sub>3</sub>	2.178			
Si = 20,000	T <sub>2</sub>	160/20,000	MeSiCl <sub>3</sub>	8.063			
			Acid Clay	10.0 g			
12 <sup>2</sup>	D	4892/5000	(Me <sub>2</sub> SiO) <sub>4</sub>	469.54	19736	3,634,070	14.15
n = 44	M	55/5000	5 cs silicone fluid	26.36			
m = 0	T <sub>1</sub>	10/5000	ViSi(OAc) <sub>3</sub>	3.01			
x = 50	T <sub>2</sub>	43/5000	(MeHSiO) <sub>n</sub>	3.39			
13							
n = 11	D	1840/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	480.28	50754	4,980,280	7.88
m = 0	M	13/1864	5 cs silicone fluid	16.97			
x = 80	T <sub>1</sub>	3.7/1864	ViSi(OAc) <sub>2</sub>	3.05			
Si = 1864	T <sub>2</sub>	7.3/1864	MeSi(OAc) <sub>3</sub>	5.65			
14							
n = 11	D	1837.1/1864	(Me <sub>2</sub> SiO) <sub>4</sub>	479.1	21724	5,887,520	20.11
m = 0	D <sub>2</sub>	2.9/1864	(MeViSiO) <sub>4</sub>	0.88			
x = 80	M	13/1864	5 cs silicone fluid	16.92			
Si = 1564	T	11/1864	MeSi(OAc) <sub>3</sub>	8.53			
15							
n = 21	D	5150/5253	Me <sub>2</sub> SiO	467.87			
m = 20	M	63/5253	5 cs silicone fluid	28.617			
x = 50	T	21/5233	ViS(OAc) <sub>3</sub>	5.989			
Si = 5253	Q	20/5253	SiO(AC) <sub>4</sub>	6.482			

<sup>1</sup>In Example 9 the chlorosilanes were first dissolved in 65 g 1,1,1-Trichloroethane. 10 g H<sub>2</sub>O in 22 g acetone was added slowly to hydrolyze the chlorosilane. The hydrolyzate was then condensed with acid clay (3 g) over 16 hrs. @ 80-115° C. with a N<sub>2</sub> purge.

<sup>2</sup>Process similar to Example 9.



We claim:

1. A method of replacing the lens in the eye of a human being or other animal *in vivo* which comprises: introducing into the lens capsule, from which the natural lens has been removed, a curable liquid silicone polymer composition comprising crosslinkable silicone polymer and a crosslinker through a needle inserted into a hole in the lens capsule;